



## Thermo Gravimetric Analysis of Calcium Soaps

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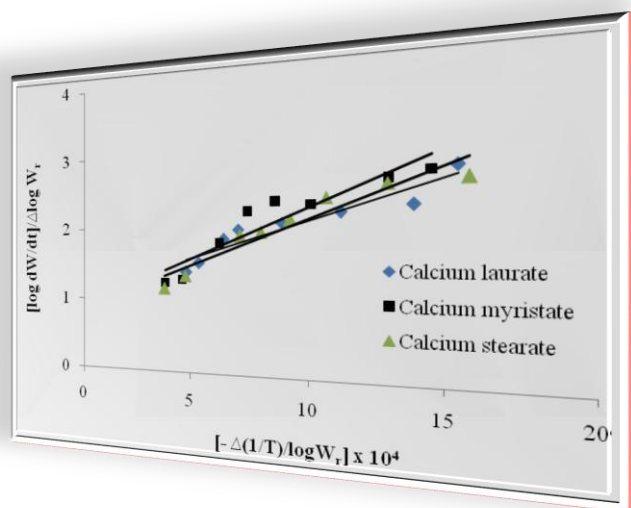
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### ABSTRACT

The thermo gravimetric analysis were made on calcium soaps (Laurate, Myristate and Stearate) with a view to determine the rate of reaction, order of reaction and activation energy. The result show that the order of reaction for decomposition of calcium soaps is zero order and the energy of activation lie between 13.40-30.63 K Cal mol<sup>-1</sup>. These results were discussed in term of some well known equation and the results obtained were in agreement with properties.

### Graphical Abstract



Freeman Carroll's Type Plots (Calcium soaps)

### Highlights

Soaps are widely used in daily lives, industry, technology and allied science.

The uses of metal soaps largely depend on their physical state, stability, chemical reactivity and solubility in polar and non polar solvents.

Calcium soaps (Laurate, Myristate and Stearate) were synthesized by direct metathesis of corresponding potassium soaps.

Thermo gravimetric analysis was used in the prediction of rate of reaction, order of reaction and activation energy.

Rate of decomposition and energy of activation of calcium soaps has been correlated.

**Keywords:** Metal soaps, order of reaction, activation energy, X-rays.

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